

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A composite rigid foam structure comprising:
made of ceramic or metal
a rigid reticulated foam substrate having a surface and pores, said pores having an average diameter, and

a formed in situ skin comprising molybdenum disilicide substantially uniformly bonded directly to at least a portion of said surface, said skin generally penetrating said rigid foam substrate to a depth of from about 1 to about 5 of said average pore diameters, said skin having a substantially uniform interconnected porosity and adapted to allowing gas to flow through said skin and out of said composite rigid foam structure.

2. (previously presented): A composite structure of claim 1, wherein said rigid reticulated foam substrate comprises an inorganic material having at least about 20 pores per linear inch.

3. (currently amended): A composite structure of claim 1, wherein the rigid foam substrate and the skin are is made of metals, ceramics, glasses, or inorganic polymers.

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~~3. (currently amended): A composite structure of claim 1, wherein the rigid foam substrate and the skin are is made of metals, ceramics, glasses, or inorganic polymers.~~

4. (withdrawn): The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises metal.

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~~4. (withdrawn): The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises metal.~~

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5. (withdrawn): The composite structure of claim 1, wherein said rigid reticulated foam substrate and said skin comprise different metals.

6. (currently amended): The composite structure of claim 1, wherein ~~at least one of~~ said rigid reticulated foam substrate and skin comprises ceramic.

7. (withdrawn): The composite structure of claim 1, wherein said rigid reticulated foam substrate comprises carbon.

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8. (withdrawn): The composite structure of claim 1, wherein at least one of said rigid reticulated foam substrate and skin comprises glass.

9. (withdrawn): The composite structure of claim 1, wherein said rigid reticulated foam substrate and said skin comprise polymers.

10. (currently amended): The composite structure of claim 1, wherein ~~one of~~ said rigid reticulated foam substrate and said skin comprises refractory metal and the other comprises ceramic.

11. (cancelled):

12. (original): The composite structure of claim 1 wherein the continuous skin has penetrated into said rigid reticulated foam substrate for a depth of less than approximately 2 average pore diameters.

13. (withdrawn): A method of forming a composite rigid foam structure comprising:

selecting a solid three-dimensional rigid foam substrate having at least one surface and pores, said pores in said foam substrate being defined by their peripheries and having an average diameter, and

thermally spraying a material that is at least partially fluid onto said surface to form a solid phase skin on said surface, said skin being attached to substantially all of said peripheries, and said skin extending no more than about 5 average pore diameters into said rigid foam substrate.

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14. (withdrawn): A method of forming a composite foam structure of claim 13 including selecting a hollow three-dimensional rigid foam substrate having inner and outer surfaces, and thermally spraying said material on at least one of said inner and outer surfaces.

15. (currently amended): A composite rigid foam structure comprising:
a rigid reticulated foam substrate, ^{made of ceramic or metal} having a surface and pores, said pores having
an average diameter, and

a formed in situ skin comprising molybdenum disilicide substantially uniformly
bonded directly to at least a portion of said surface, said skin generally penetrating
said rigid foam substrate to a depth of from about 1 to about 5 of said average pore
diameters, said skin having a substantially uniform interconnected porosity and
adapted to allowing substantially uniform gas flow through said skin and out of said
composite rigid foam structure.

16. (currently amended): A composite rigid foam structure comprising:
a rigid reticulated foam substrate, ^{made of ceramic or metal} having a surface and pores, said pores having
an average diameter, and

a formed in situ skin comprising molybdenum disilicide substantially uniformly
bonded directly to at least a portion of said surface, said skin generally penetrating
said rigid foam substrate to a depth of from about 1 to about 5 of said average pore
diameters, said skin having a substantially uniform interconnected porosity extending
entirely therethrough and adapted to allowing transpiration cooling of said composite
rigid foam structure.

17.(previously presented): A composite rigid foam structure comprising:
a rigid reticulated foam substrate comprising ceramic and having a surface and
pores, said pores having an average diameter, and
a formed in situ skin comprising molybdenum disilicide, said skin being
substantially uniformly bonded directly to at least a portion of said surface, said skin
generally penetrating said rigid foam substrate to a depth of less than about 5 of said
average pore diameters, said skin having an interconnected porosity and adapted to
allowing gas to flow through said skin and out of said composite rigid foam structure.

18.(new): A composite rigid foam structure comprising:
a rigid reticulated foam substrate comprising metal and having a surface and
pores, said pores having an average diameter, and
a formed in situ skin comprising molybdenum disilicide, said skin being
substantially uniformly bonded directly to at least a portion of said surface, said skin
generally penetrating said rigid foam substrate to a depth of less than about 5 of said
average pore diameters, said skin having an interconnected porosity and adapted to
allowing gas to flow through said skin and out of said composite rigid foam structure.

19.(new): A composite rigid foam structure of claim 18 wherein said rigid
reticulated foam substrate comprises refractory metal.